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Meagan Rollins '17 Wants to Wipe Out Cancer

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FOR IMMEDIATE RELEASE

Meagan Rollins '17 Wants to Wipe Out Cancer

MORRIS, Minnesota (March 2, 2016)—Alongside Assistant Professor of Biology Rachel Johnson, Meagan Rollins '17, North Branch, is pioneering immunotherapy treatment possibilities for cancer. Their work has shaped Rollins's entire trajectory—from setting her on a new career path to helping her cope with her mother's cancer diagnosis.

Rollins and Johnson are investigating interactions between the immune system and tumor cell proteins, particularly how those interactions could lead to new treatment opportunities that are both safe and effective. The two are looking at CD8 T cells and their interactions with the common tumor protein B7-H1 (PD-L1). According to Rollins, their findings indicate that they could be onto "a new treatment possibility that can, hopefully, lead to better patient outcomes."

Rollins's work has allowed her to practice advanced laboratory techniques that range from collecting and preparing cell samples to conducting procedures like Western blotting and flow cytometry to analyzing and presenting her team's results; she even was was accepted to the Mayo Clinic's prestigious Summer Undergraduate Research Fellowship to work in an immunology lab. More importantly, her experience has prepared her for some significant life events taking place inside and outside the classroom.

A first responder since high school, Rollins entered college planning to major in pre-medicine, but has since switched to biology in hopes of following in her mentor's footsteps and pursuing a PhD in immunology: a decision inspired by her lab work as well as an upset in her personal life. Last April Rollins's mother was diagnosed with a brain tumor. Her current treatment, which has been showing some success, is an immunotherapy treatment. The lessons Rollins has learned in the lab, she says, have helped her family cope with the experience because she understands the underlying science.

"I know what the treatments are doing within the body," she says. "I was not only learning, but also able to take that information and teach my family. It's a big reason I see myself going into this field."

An active and involved mentor, Johnson believes profoundly in the potential of her students and says some "will go on to...develop and implement the therapies that in the future will allow for us to cure each patient of their cancer." Rollins, she trusts, is one of them.

"She is driven by a genuine curiosity about the biology of cancer and immunology and is also motivated by her passion to help those who suffer from cancer," says Johnson.

Cancer isn't going away anytime soon, says Rollins, and treating it is a monumental challenge to undertake. But the scope of the undertaking has done anything but deter her.

"I know I can make an impact there, so that's what I want to do. I know the impact I can have."

Rollins's research activity has been supported by the Pathways to Science Program, which is supported in part by a grant to the University of Minnesota, Morris from the Howard Hughes Medical Institute through the Precollege and Undergraduate Science Education Program, and the Morris Academic Partnership (MAP) program.

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